CLAIMS

1. A method of determining a predisposition to infection, the method comprising the steps of obtaining a DNA bearing sample from a subject, and assaying the sample to identify the alleles present at at least one of the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, wherein the presence of particular alleles at microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272 is indicative of a resistance to infection.

2. A method of determining a resistance to infection, the method comprising the steps of obtaining a DNA bearing sample from a subject, and assaying the sample to identify the alleles present at at least one of the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, wherein the presence of particular alleles at microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272 is indicative of a resistance to infection.

3. A method according to claim 1 or claim 2, in which the sample is assayed to determine the presence of homologues, splice variants, or derivatives of the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272 or a nucleic acid complementary thereto.

4. A method according to any one of claims 1 to 3, in which the method is used for the determination of a predisposition to viral infection.

5. A method according to claim 4, in which the virus is selected from the group consisting of oncoviruses, retroviruses, lentiviruses, and spumaviruses.

6. A method according to claim 4 or claim 5, in which the virus is an endogenous retrovirus.

7. A method according to any one of claims 3 to 6, in which the virus is the HIV virus.

8. A method according to any preceding claim, in which the sample is obtained non-invasively.

9. A method according to any one of claims 1 to 8, in which the sample is blood, urine, semen, mouth swabs, skin cells, nail clippings, hair, high vaginal swabs or a cervical smear.

10. A method according to any preceding claim, in which the sample is amplified by the use of a nucleic acid amplification technique.

11. A method according to claim 10, in which the nucleic acid amplification technique is PCR or rolling circle replication.

12. A method according to any preceding claim, in which the sample is assayed for the presence or absence of particular genotypes at the microsatellite locus or loci using DNA fragment length analysis, DNA hybridisation techniques, DNA sequence identification, single strand length polymorphism (SSLP) analysis, or reference strand conformation (RSC) analysis.

13. A method according to claim 12, in which the assay uses single strand length polymorphism (SSLP) analysis and the flanking primer set for PCR amplification of the microsatellite marker is selected from

D22S277 left, TTCTTGTGTGGTAGTCTGGG; (SEQ ID No: 1)

D22S277 right, TACCNACTCCCCAAACTATG; (SEQ ID No: 2)

D22S272 left, GAGTTTTGTTTGCCTGGCAC; (SEQ ID No:3)

D22S272 right, AATGCACGACCCACCTAAAG; (SEQ ID No:4)

D22S276 left, CATTCTGCCAAGCAATTTAT; (SEQ ID No:5)

D22S276 right, GCTGCTCTTTAAGTTTCTTGACC; (SEQ ID No:6)

D22S929 left, GGAGCTGCATGTACTAGCTGG; (SEQ ID No:7)

D22S929 right, GCATTTATGGAGTATCCACAG; (SEQ ID No:8)

D22S1169 left, GCACACACATGCACATAATC; (SEQ ID No: 9) and

D22S1169 right, AACAACTTCCAGCAGACG. (SEQ ID No:10)

complementary nucleic acids or fragments, polymorphisms, splice variants or homologues thereof.

14. A kit for the diagnosis of a predisposition to infection, the kit comprising reagents for determination of genotype at at least one of the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272

15. A kit for the diagnosis of a predisposition to infection, the kit comprising reagents for determination of genotype for at at least one of the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272 or a nucleic acid complementary thereto, fragments, polymorphisms, splice variants or homologues thereof.

16. A vector bearing the chromosomal fragment that harbours at least one of the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272 or a nucleic acid complementary thereto, or fragments, polymorphisms, splice variants or homologues thereof.

17. Use of a vector according to claim 16 in gene therapy to treat a subject having a predisposition to infection.

18. Use of a vector according to claim 16 in the preparation of a medicament for the treatment of infection.

19. Use of a vector according to claim 16 or a medicament according to claim 18 in the treatment of or prophylaxis of or therapy of infection.

20. Use according to claim 17, in which the infection is a viral infection.

21. Use according to any one of claims 17 to 20, in which the infection is infection with the HIV virus.

22. A composition comprising the peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of the amino acid sequence encoded by the gene located in the chromosomal segment adjacent to the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, complementary nucleic acids or fragments, polymorphisms, splice variants, complementary nucleic acids or homologues of said gene.

23. Use of the composition of claim 22 in the treatment or prophylaxis of infection.

24. Use of the composition of claim 22 in the treatment or prophylaxis of viral infection.

25. Use of the composition of claim 22 in the treatment, prophylaxis of or other therapy of HIV.

26. A composition according to claim 22, in which the composition is a pharmaceutical composition.

27. A composition according to claim 22, in which the composition is a vaccine.

28. Use of a composition according to claim 22 in a contraceptive.

29. A contraceptive comprising the protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of the protein encoded by the gene located in the chromosomal segment adjacent to the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues of said gene.

30. A contraceptive according to claim 28, in the form of a diaphragm, a cervical cap, a condom, a sponge or other intra-vaginal or barrier device, a coated IUD device, an oral contraceptive pill, a contraceptive implant or injection or a spermicidal gel, pessary, foam ,film or cream.

31. Use of a composition according to claim 22 in a microbicide.

32. Use of a microbicide according to claim 31 in mucosally administerable form.

33. Use of a microbicide according to claim 31 in mucosal vaccination against viral disease.

34. Use of a microbicide according to claim 33 in mucosal vaccination against HIV virus.

35. Use of the peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of the protein encoded by the gene located in the chromosomal segment adjacent to the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues of said gene in the preparation of a medicament for the treatment or prophylaxis of infection.

36. Use according to claim 35, in which the infection is viral infection.

37. Use according to claim 35 or claim 36, in which the infection is HIV.

38. A vaccine comprising at least one naked DNA sequence according to any one of SEQ ID No's 1 to 10.

39. A vaccine comprising DNA sequences comprising the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, or fragments, polymorphisms, splice variants, complementary nucleic acids or homologues of said gene.

40. A vaccine comprising DNA encoding the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, or fragments, polymorphisms, splice variants, complementary nucleic acids or homologues of said gene in which the DNA is naked.

41. A vaccine according to any one of claims 38 to 40 further comprising adjuvant.

42. A vaccine according to claim 27, claim 33 or to any one of claims 38 to 41 which is parenterally or orally administerable.

43. A vaccine according to any one of claims 38 to 41, in which the vaccine is immunogenic.

44. Use of DNA encoding the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, or fragments, polymorphisms, splice variants, complementary nucleic acids or homologues of said gene in chip or assay plate for screening of compounds able to bind to or otherwise recognise said DNA.

45. A chip or assay plate comprising DNA encoding the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272,

or fragments, polymorphisms, splice variants, complementary nucleic acids or homologues of said gene.

46. Use of a chip or assay plate according to claim 44 in medicine.

47. A chip or assay plate comprising the peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of the protein encoded by the gene located in the chromosomal segment adjacent to the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues of said gene.

48. Use of a chip or assay plate according to claim 47 in screening of compounds able to bind to or otherwise recognise, to modify or mimic said peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of the protein encoded by the gene located in the chromosomal segment adjacent to the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues of said gene.

49. Use of a chip or assay plate according to any one of claims 45 to 48 in a high throughput screening method.

50. Use of a peptide, polypeptide, protein or glycosylation, sulphonation, acetylation, or other post-translational derivatives, functional derivatives, homologues or fragments of the protein encoded by the gene located in the chromosomal segment adjacent to the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues of said gene to produce

an immunoglobulin A which provides resistance to infection or possesses antiviral activity.

51. Use of the microsatellite loci D22S929, D22S277, D22S264, D22S423 & D22S418 or D22S272, complementary nucleic acids or fragments, polymorphisms, splice variants or homologues of said gene to produce an immunoglobulin A which provides resistance to infection or possesses antiviral activity.

52. An Immunoglobulin A providing resistance to infection or possessing antiviral activity, produced according to claim 50 or claim 51.

53. Use of an Immunoglobulin A according to claim 52 in a pharmaceutical composition.

54. Use of an Immunoglobulin A according to claim 52 in the preparation of a medicament for the treatment of infection.

55. Use according to claim 54, in the treatment of a viral infection.

56. Use according to claim 55, in which the virus is the HIV virus.

57. Use according to claim 51 or claim 54 to produce a mucosal response in a patient undergoing treatment to produce protective immunity in said patient.

58. A mucosal vaccine comprising an immunoglobulin A according to claim 52.

59. Use of a vaccine according to claim 58 to produce antigen or pathogen specific immunity.

60. Use of a vaccine according to claim 58 and a microbicide according to claim 31 in the preparation of a mucosal vaccination against the HIV virus.

61. A nucleic acid encoding the locus controlling the production of neutralising antibodies to HIV.

62. A nucleic acid according to Claim 61, in which the nucleic acid is DNA.

63. A nucleic acid according to Claim 61 or Claim 62, in which the locus is syntenic with mouse D15Mit71.

64. A nucleic acid according to any one of Claims 61 to 63, in which the locus is selected from human D22S272, D22S423, D22S284, D22S299.

65. A nucleic acid according to any one of Claims 61 to 64, in which the locus is D22S272 or D22S423.

66. Use of a nucleic acid according to any one of Claims 61 to 65 in medicine.

67. Use according to Claim 66 in the preparation of a medicament for the treatment or prophylaxis of HIV infection.

68. A peptide, polypeptide, or protein encoded by a nucleic acid according to any one of Claims 61 to 65.

69. Use of a peptide, polypeptide, or protein according to Claim 68 in medicine.

70. Use of a peptide, polypeptide, or protein according to Claim 68 in the preparation of a medicament for the treatment or prophylaxis of HIV infection.